American Red Cross

RedPillars
Design for Disaster

Design Challenge

The American Red Cross is a nonprofit organization focused on disaster preparedness and response, mainly funded by individual and corporate donations. 95% of all members are volunteers.

The ARC is known for its Blood Drives and response to big disasters like earthquakes, hurricanes, and wildfires, providing aid to disaster victims (or as they call them, clients). But the services are not limited to these. In big cities like New York, ARC volunteers respond to 3 to 8 calls daily: house fires, vacates, floods, building collapses, plane crashes, transportation accidents, and many more disasters of various scales.

ARC volunteers and professional staff help clients by providing psychological support, financial help, temporary accommodation (hotels, hostels, or shelters) or offering means of communication with relatives.

To fund these efforts the ARC depends on public visibility and media coverage to acquire donations and volunteers. During major disasters like hurricane Katrina this system works well, but during the down time between major disasters, or during disasters poorly covered by the media (ex: Hurricane Ike), the resources of the ARC diminish greatly. The media's motives are not aligned with those of the ARC and have failed to supply a steady or growing stream of resources necessary.

The ARC needs better public awareness of their activities to capture more volunteers, donations, and partners.

In a term-long research phase, we rode along with disaster-response teams in New York and interviewed key stakeholders at volunteer, staff, and leadership levels in New York and LA. In a second term of strategic analysis and design we uncovered and addressed the following issues:

Development of a direct channel between the ARC and the American public to:

 • Generate awareness regarding ARC activities
 • Educate the public about disasters and preparedness
 • Generate micro donations and attract a new generation of volunteers
 • Attract new partners

RedPillars at a Glance

Red Pillars interactive digital information kiosks increase public awareness about the American Red Cross (ARC), breaking its reliance on disaster-driven donations, and giving it control over its image and communication.

Function:
 • Up-to-date disaster information
 • Guidance in disasters
 • Improved visibility of the organization
 • Multiple revenue streams
 • Attract volunteers
 • Facilitate relief operations

Composition:
 • Interactive touch screens
 • Card readers to accept credit and ID cards
 • Battery reserves for blackouts
 • Digital camera feed to the ARC Command Center
 • Connection to ARC HQ via a "mesh network" of Pillars (independent network)
 • 12' body structure
 • 10' illuminated strip for guidance

Implementation:
 • Major transportation hubs
 • Busy public spaces
 • Major streets and intersections
 • ARC partners (ex: Hotels, Shops)
 • Schools
 • First responder stations (fire department, police station)

Materials:
Red Pillars are made of several critical components such as:
 • Internal mild steel lattice structure
 • Powder-coated aluminum sheeting
 • Fiberglass-reinforced-plastic protective shells
 • Electroluminescent tape (low energy lighting unit)
 • 2 LCD touch screen displays
 • Standard computer components
 • Wireless Mesh Network (WMN) enabled router and receiver
 • Lithium-Ion rechargeable batteries

Production Summary

Core steel structure
- Cut tubular pipe to length
- Jig
- Drill
- Weld
- Powder coat to finish

Aluminum covering
- Die cut
- Bend
- Powder coat
- Attach to structure

Hardware installation
- Attach to core
- Wiring

Fiber-reinforced Plastic Shells
- Roto-mold
- Paint
- Apply decals
- Clear coat
- Attach to core

On-site installation
- Drill pilot hole into concrete slab
- Install drive anchor
- Bolt to core structure

Based on the success of the 200-unit trial batch in NYC and LA counties, nationwide implementation would require a mass-production strategy which would augment the above steps.

Benefits of RedPillars

ARC uses traditional advertising to communicate their message, yet these ads have ambiguous messages and target audiences. And because the ad space is donated, the ads are not deployed consistently or in a large enough scale to be effective.

Red Pillars offer the ARC control over image and message content and delivery and break its reliance on donated time or ad space. Being interactive multifunctional hubs, Red Pillars provide a tailored experience to diverse populations, increasing the likelihood of successful communication.

Benefit to ARC clients and volunteers
  • Access to disaster news and updates
  • Access to disaster preparedness information/education
  • Access to ARC guidance in disaster situations (maps, shelter locations, communication to ARC HQ, etc.)
  • Information about daily ARC activities
  • Access to client/volunteer accounts in remote locations
  • Access to information about ARC partners (store locations, client discounts, services, etc.)

Benefit to the ARC
Provides a communication channel controlled by the ARC which can:
  • Inform public and create awareness about disasters and preparedness
  • Collect micro donations
  • Provide online shopping for ARC products
  • Recruit volunteers
  • Promote corporate partners
  • Improve outdated image

Benefit to society
Red Pillars re-establish the link to the public:
  • Provide dependable key information about disaster situations/preparedness
  • Strengthen bond between ARC and the public
  • Serve as reliable communication infrastructure during disasters, when cell towers, phone lines, & power grid are down

Ecological benefit
Red Pillars are modular and accept a variety of hardware as they evolve. Upgrades will reuse existing pillar infrastructure.

Visual appeal

RedPillars are a visual metaphor of the ARC protecting the American public. The ARC is represented by the white blankets that envelop and protect the core structure (which mimics a sky scraper and represents a productive society).

The iconic form is designed to project a contemporary image and represent the professional nature of the ARC. Its verticality, height, and glowing light attract attention day and night as well as in disasters.

Usability testing

Ergonomic research using a series of mockups led to the development of screen size and orientation, as well as location of the card reader and geometry of shading elements.

Organizational factors

The ARC struggles to find new ways to attract volunteers and generate revenue. This program contributes to efforts already undertaken by the ARC toward these goals. Additionally, we identified several "champions" within the organization capable of bringing the design to fruition.

Red Pillars offer the ARC the unique opportunity to shift their business strategy and regain control over their image and message, as well as the channel by which it is conveyed to the end user. The pillars are a revolutionary tool for communication, both day-to-day and in disasters.

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